

EXTENDED-LINEAR POLYMERIC CONTRAST  
AGENTS, AND SYNTHESIZING METHODS, FOR  
MEDICAL IMAGING

ABSTRACT OF THE DISCLOSURE

5 Linear extended polymeric paramagnetic chelates for use as MRI contrast agents are synthesized by conjugating DTPA chelator moieties to higher than 90% of the monomer residues of the polyamino acid backbone chain. The resulting polymer can be labeled with Gd, since each chelator moiety holds a Gd ion, and the resulting conformation is of an unfolded, extended linear type, capable of entering small pores and moving around obstacles in the extracellular space of tissues. The efficient production of these extended polymers is critical for the application of such contrast agents to medical imaging. One such agent is a reptating polymer containing technetium-99.